

5.0 MITIGATION COMMITMENTS

CEQ NEPA regulations require the Record of Decision (ROD) to state whether “all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not,” (40 CFR 1505.2(c)). They further require that mitigation “and other conditions established in the (EIS) or during its review and committed as part of the decision shall be implemented by the lead agency and other appropriate consenting agency,” (40 CFR 1505.3).

FHWA regulations require project sponsors “to implement those mitigation measures stated as commitments in the environmental documents prepared pursuant to this regulation. The FHWA will assure that this is accomplished as a part of its program management responsibilities that include reviews of designs, plans, specifications, and estimates (PS&E), and construction inspections.” The regulations further state that, as a condition of federal-aid project agreements, state agencies must “ensure that the project is constructed in accordance with and incorporates all committed environmental impact mitigation measures listed in approved environmental documents,” (23 CFR 771.109).

This section describes the proposed mitigation measures and commitments made to resource and other agencies with permitting authority, and other environmental and design commitments made on behalf of the SR-262; Montezuma Creek to Aneth project.

5.1 LAND USE

5.1.1 Intersection Alternatives

Under all Intersection Build alternatives there will be no prudent way to avoid acquiring project ROW from properties in Montezuma Creek. No buildings (business or residential) would require relocation.

To mitigate the effects of fencing installed along SR-162 between Montezuma Creek and Aneth, livestock and wildlife under-crossings will be installed at specific locations along the corridor to create an area where animals may cross the highway. The location of proposed animal crossings is shown in **Figures 2.7** through **2.41**.

Any ROW required for the proposed action would be acquired in compliance with the Uniform Relocation Assistance and Real Property Acquisition Policy Act of 1970 (Relocation Act 1970, known as Uniform Act) as amended in 1987 and Department of Interior Bureau of Indian Affairs (BIA) Rights-of-Way Over Indian Lands Consent of landowners to grants of rights-of-way (25 CFR 169.3). The Uniform Act provides uniform, fair and equitable treatment of persons whose real property is acquired or who are displaced in connection with federally funded projects. The Uniform Act is designed to ensure that relocation assistance is provided to displaced persons to lessen the emotional and financial impact of displacement, to ensure that no individual or family is displaced unless decent, safe, and sanitary housing is available within the displaced person’s financial means, to help improve the housing conditions of displaced persons living in substandard housing, and to encourage and expedite acquisition by agreement and without coercion. All property needing to be acquired would be appraised before negotiations and the

property owner is encouraged to accompany the appraiser. The BIA (Under 25 CFR 169.3) is required to obtain approvals for ROW before ROW can be granted by the tribe.

5.1.2 Highway Alternatives

Under all Highway Build alternatives there will be no prudent way to avoid acquiring project ROW from properties between Montezuma Creek and Aneth. No buildings would require relocation.

To mitigate the effects of fencing installed along SR-162 between Montezuma Creek and Aneth, livestock and wildlife under-crossings will be installed at specific locations along the corridor to create an area where animals may cross from one side of the highway to the other. The locations of proposed animal crossings are shown in **Figures 2.7** through **2.41**.

Any ROW required for the proposed action would be acquired in compliance with the Uniform Relocation Assistance and Real Property Acquisition Policy Act of 1970 (Relocation Act 1970, known as Uniform Act) as amended in 1987 and BIA Rights-of-Way Over Indian Lands Consent of landowners to grants of rights-of-way (25 CFR 169.3). Please refer to Section 5.1.1 for a brief explanation of the rights provided under the Uniform Act.

5.2 FARMLAND

Because there are no Prime, Unique or State-designated Important or Century farmlands located within the project study area, no mitigation measures are required.

5.3 SOCIAL CONDITIONS

5.3.1 Intersection Alternatives

The community has expressed a strong desire to see roadway safety improved within and between the communities of Montezuma Creek and Aneth. New roadway designs will correct safety deficiencies and meet current UDOT standards and AASHTO guidelines.

The community will be notified of any temporary roadway closures or detour routes during road construction by the following means:

- Notices in newspapers
- Radio station advertisements
- Signs on the roadway
- Announcements at monthly Aneth Chapter House meetings
- Other methods considered necessary and prudent

Access to businesses, schools, and other location will remain open during construction in accordance with the MUTCD.

5.3.2 Highway Alternatives

Mitigation measures for the Highway Alternatives will be the same as those for the Intersection Alternatives (Section 5.3.1).

5.4 ECONOMIC CONDITIONS

For any Build alternative under both the Intersection and Highway improvements, access to local businesses within the project area will remain open during construction. Efforts will be made to hire workers from the local labor force for roadway construction in compliance with UDOT and Navajo Nation TERO and Indian preference hiring agreements for projects within Navajo Nation boundaries.

5.5 RELOCATION

Because there will be no relocation impacts, mitigation measures are not required.

5.6 ENVIRONMENTAL JUSTICE

Because a specific EJ population within the project area has not been identified as being disproportionately affected, there are no proposed avoidance, minimization, and/or mitigation measures.

5.7 PEDESTRIANS AND BICYCLISTS

5.7.1 Intersection Alternatives

Any existing trails or sidewalks that are directly affected by project construction will be replaced.

5.7.2 Highway Alternatives

Any existing sidewalks that are directly affected by project construction will be replaced.

5.8 AIR QUALITY

A minor source permit will be obtained from NNEPA Air Quality Department. Best Management Practices (BMPs) in accordance with the permit will be implemented during construction. These will include, but are not limited to:

- Wet stockpiles as needed to decrease fugitive dust
- If possible, use chemical dust suppressants
- Minimize the amount of disturbed surface

5.9 NOISE

Because the traffic noise impact analysis indicated that none of the modeled receptor locations approach or exceed the noise abatement criteria under the No Action or Build alternatives, mitigation is not required. However, the project will comply with all applicable noise ordinance rules/regulation during construction in order to minimize construction noise levels.

5.10 HAZARDOUS MATERIALS

5.10.1 Intersection Alternatives

Because there are no USTs or LUSTs located within the Intersection Alternatives project area, no mitigation is required.

5.10.2 Highway Alternatives

Prior to construction, the precise location of all USTs and LUSTs along SR-162 will be determined. This will allow UDOT to identify any special precautions to be taken in advance of construction, or when building near any of these sites.

If petroleum, oil, or gas contamination is encountered during construction, mitigation will be implemented in accordance with UDOT Standard Specification 01355 - Environmental Protection, which directs the contractor to stop work and notify the project engineer of the discovery. Disposition of any hazardous material will be accomplished pursuant to guidelines set by the UDEQ and the NNEPA.

5.11 ENERGY

There are no planned mitigation measures for energy.

5.12 GEOLOGY AND SOILS

Excavation and removal of materials from the red-rock cliffs will be undertaken in compliance with all applicable UDOT standards and AASHTO guidelines. Short-term impacts will be mitigated with BMPs that will be identified in a Stormwater Pollution Prevention Plan (SWPPP) as part of the General Construction Plan. These include temporary silt fencing of the project site and temporary stormwater detention. Measures may also include other erosion control techniques such as hydraulic control structures and vehicle wash-down areas. At the completion of construction, disturbed areas will be restored through seeding and other measures.

Please refer to Section 5.22 – Visual Quality for a discussion of mitigation measures for impacts to cliffs.

5.13 WATER QUALITY

Short-term impacts will be mitigated by BMPs that will be identified in a SWPPP as part of the General Construction Plan. BMPs include temporary silt fencing of the project site and temporary stormwater detention. Measures may also include other erosion control techniques such as hydraulic control structures and vehicle wash-down areas. At the completion of construction, disturbed areas will be restored through seeding and other measures.

Mitigation measures during construction will include:

- Preparation of a SWPPP
- Construction of sediment traps
- Seeding and mulching of disturbed areas

- Coordination with the Aneth Chapter on any new local regulations that may be enacted prior to project construction

Mitigation measures following construction will include:

- Monitoring of new drainage structures to check for proper function
- Monitoring of re-vegetated areas to ensure disturbed areas are stable

The Navajo Nation will implement the provisions of the CWA through issuance of a certification of federal licenses and permits as provided in Section 209 of the CWA (including permits issued by the USACE pursuant to Sections 401 and 404 of the CWA). When the USACE issues the Section 404 permit for the project, the NNEPA will then be the issuing authority for the Section 401 Water Quality Certification.

5.14 WETLANDS

5.14.1 Compensatory Mitigation

No compensatory mitigation for wetland impacts is necessary because there will be no direct or indirect adverse impacts to the three wetlands identified within the project area. There may be mitigation required for the drainage way impacts. This mitigation would be determined during coordination with the State Engineer of the Division of Water Rights in applying for a Stream Alteration Permit, which would occur before construction of the project could begin.

5.14.2 Section 404 (b)(1) Guidelines Analysis

No direct, long-term impacts to wetlands would occur under the Build alternatives and thus would not require a Section 404 permit. However a permit from the State engineer Division of Water Rights (Stream Alteration Permit) will be necessary. This permit would be in place of a Section 404 permit. (see Section 5.15).

The Navajo Nation will implement the provisions of the CWA through issuance of a certification of federal licenses and permits as provided in Section 209 of the CWA (including permits issued by the USACE pursuant to Sections 401 and 404 of the CWA). When the State issues the Stream Alteration Permit for the project, the NNEPA will then be the issuing authority for the Section 401 Water Quality Certification.

5.14.3 Other Mitigation Measures

The following measures will be employed to mitigate adverse impacts to wetlands during project construction:

- A barrier will be added on the south side of SR-162 near the unnamed drainage wetland. This wetland would not be impacted because the barrier will be added.
- Unnecessary temporary impacts will be avoided by temporarily fencing the limits of disturbance near wetland areas prior to construction.

- BMPs will be used during all phases of construction to reduce impacts from sedimentation and erosion, including the use of berms, brush barriers, check dams, erosion control blankets, filter strips, fiber roll, sediment basins, silt fences, straw-bale barriers, surface roughening, seeding disturbed areas and/or diversion channels.
- No equipment staging or storage of construction materials will occur within 50 feet of wetlands or other water features.
- The use of chemicals – such as soil stabilizers, dust inhibitors, and fertilizers – within 50 feet of wetlands and other water features will be prohibited.
- Equipment will be refueled in designated contained areas at least 50 feet away from wetlands and other water features.
- Where practicable, work will be performed during low flows or dry periods; if flowing water is present, it will be diverted around active construction areas.

Refer to Section 5.20 for mitigation related to invasive species.

5.15 OTHER WATER FEATURES

Mitigation measures for impacts to other water features apply to both the Intersection and Highway alternatives. Depending on the USACE's final jurisdictional determination for ephemeral streams and other water features (pending), the Build alternatives will be permitted under either a Nationwide or Individual Section 404 permit. All impacted water features will be mitigated in accordance with current UDOT, FHWA, NNEPA and USACE stream mitigation policies and the conditions of the Section 404 Permit.

All mitigation plans will be developed in coordination with USACE and NNEPA Water Quality program and other appropriate agencies during the Section 404 permitting process. A concurrence letter from USACE was received on January 19, 2007, and is included in **Appendix D**. The first letter was only a determination of the wetlands. The project team is awaiting a second determination and concurrence letter from USACE for the additional work that was completed after the *Rapanos* decision. For projects permitted under Nationwide permits, a project-specific 404(b)(1) analysis is not required, because the analysis is done in connection with adoption of the Nationwide permit itself (see 33 CFR 330.5 (b)(3) and 40 CFR 230.7). Accordingly, no Section 404(b)(1) analysis is required. UDOT has sent a letter to USACE to request a Preliminary Determination as they are confident in the delineation as submitted, **Appendix D**.

5.16 FLOODPLAINS

Measures to mitigate potential floodplain impacts will include:

- Rehabilitation of any plant communities disturbed during construction.
- Providing additional design features, such as steeper side slopes to minimize the encroachment of fill into the floodplain.

5.17 WILD AND SCENIC RIVERS

Because the San Juan River within the project area has not been designated as a Wild and Scenic River or as a segment of river that is “suitable” for designation, no mitigation measures are required.

5.18 WILDLIFE

5.18.1 General Mitigation Measures

The following mitigation measures will be implemented to minimize impacts to wildlife:

- A re-vegetation plan will be developed for areas that will be temporarily disturbed during construction. The plan will address selection of appropriate plant species, soil preparation, seeding rates, and seeding methods. The re-vegetation plan will be prepared by the UDOT Landscape Architect and reviewed by Navajo Nation Department of Natural Resources.
 - All areas temporarily disturbed during construction will be seeded or planted with native grasses, forbs, shrubs, and trees per the re-vegetation plan. Seeding will occur in the appropriate season; temporary seeding or mulching may also be required. All areas to be reseeded will be disked or tilled prior to planting and/or seeding.
- Removal of riparian woodland vegetation will be avoided where possible. Removal of trees in areas of temporary disturbance will be minimized.
- During construction, vehicle operation will be restricted to the designated construction area. Construction limits will be fenced with temporary environmental fencing where adjacent to sensitive habitats, such as riparian woodland or wetland habitats.
- Noxious weeds will be controlled during construction and operation in compliance with State and County requirements and UDOT policy.
- If metal culverts are in need of replacement, consideration should be given to replacing them with concrete box culverts that would be of sufficient size to allow passage by wildlife.
- The entrances to drainage road crossings will be constructed to enhance the approachability and potential passage of wildlife. This might include wildlife friendly fencing, the wide tapering of fence at inlets and outlets to reduce the corralled feeling to approaching wildlife, tying fences into head walls, and constructing readily traversable approaches to the drainage structure inlets and outlets.
- There will be two specific culverts designed to be animal friendly under-crossings. These locations are shown on **Figures 2.21 and 2.32**.
- Wildlife fencing will be coordinated with livestock fencing needs.

- BMPs will be used during all phases of construction to reduce impacts from sedimentation and erosion, including the use of berms, erosion control blankets, sandbag barriers, mulch and mulch tackifier, silt fences, and/or straw-bale barriers.

5.18.2 Measures for Migratory Birds

The following mitigation measures will be implemented to minimize impacts to migratory birds:

- Avoid the nesting season within the spatial buffer for the species of concern, identified in Section 3.19 of this EIS.
- Make the habitat undesirable for ground nesting birds, such as the Burrowing Owl, by disturbing potential nesting habitat in the winter before the beginning of nesting season.

5.18.3 Measures for Nesting Raptors

The following mitigation measures will be implemented to minimize impacts to nesting raptors:

- Surveys to determine the presence of active nests will occur before construction and in the appropriate time of year if construction activities are scheduled to begin during nesting or restricted time periods.
- For raptors, the recommended spatial buffer for active nests is 1.0 mile (Romin and Muck 2002).
- For other diurnal raptors the spatial buffer is 0.5 miles, except for the Prairie Falcon, which is 0.25 miles (Romin and Muck 2002).
- Burrowing Owls require a spatial buffer of 0.25 miles.
- No spatial buffer is presently considered necessary for the American Kestrel (Romin and Muck 2002).

5.19 THREATENED AND ENDANGERED SPECIES

5.19.1 Regulatory Compliance

It is FHWA's policy by the authority established under the ISTEA, § 1007, Surface Transportation Program (23 U.S.C. § 133 (b)(1)), to mitigate by feasible and practicable measures for ecological impacts that are determined to be adverse or unacceptable through the NEPA compliance process. Feasible or practical mitigation measures include, but are not limited to, restoration of altered or degraded habitats to replace the impacted biological resources, or preservation or enhancement of existing resources where such opportunities exist. Because the project will not adversely affect federally listed species, mitigation for these species will consist of identifying the presence of the species and using avoidance measures to prevent impacts.

Informal consultation with the USFWS was initiated on February 12, 2008 when a BA was submitted for review. The BA determined the project was "not likely to adversely affect" federally listed species. On February 27, 2008, the USFWS concurred with the BA's determination with the following stipulation: "a protocol survey for the Southwestern willow flycatcher and the Yellow-billed cuckoo will be conducted prior to the construction year in any

suitable habitat within a quarter mile of the project area of SR-162. If nesting birds are found, no work will be done within a quarter mile of a nest during the nesting season Mid-April through Mid September. During this time, work can proceed on other portions of the project.” Refer to **Appendix D** (Threatened and Endangered Species Coordination), for concurrence letter.

Coordination has occurred with the Utah Department of Natural Resources (UDWR), Resource Development Coordination Committee (RDCC), and the NNDFW. Coordination was initiated on February 12, 2008 when a Biological Evaluation (BE) was submitted to NNDFW and UDNR. The BE determined the project “May Impact” some species of concern discussed in Section 3.19.3.2. Mitigation measures for these species are listed in Sections 5.19.4.4 – 5.19.4.6. A Conditional Compliance letter was received from NNDFW on March 12, 2008 and is included in **Appendix D**. No comments were received from UDWR or RDCC.

5.19.2 Mitigation Measures for the Southwestern Willow Flycatcher and Yellow-Billed Cuckoo

If nests are present, measures will be taken to avoid disturbing any nesting activities by the SWWFL and Yellow-billed Cuckoo within the project area. These measures include:

- Surveys will be conducted to determine the presence of active nesting sites for the SWWFL and the Yellow-billed Cuckoo.
- Avoiding work near active SWWFL nests during the nesting season.
- Limiting the removal of tamarisk, Russian olive trees, mature cottonwood trees and associated understory vegetation.
- Northern Leopard Frog opportunistic surveys will also be conducted during the same period as the SWWFL and Yellow-billed Cuckoo surveys are conducted.
- During SWWFL and Yellow-billed Cuckoo surveys any Yellow Warbler will also be noted.

5.19.3 Mitigation Measures for the Colorado Pikeminnow and Razorback Sucker

BMPs will be used during all phases of construction to reduce impacts from sedimentation and erosion, including the use of berms, brush barriers, check dams, erosion control blankets, filter strips, sandbag barriers, sediment basins, silt fences, straw-bale barriers, surface roughening, and/or diversion channels.

Other mitigation measures listed in Section 5.14 for wetland mitigation will also serve to mitigate impacts to the Colorado pikeminnow and Razorback sucker.

5.19.4 Mitigation Measures for the Burrowing Owl, Ferruginous Hawk, and Peregrine Falcon

To avoid impacts to migratory birds, UDOT will avoid construction (i.e., within a mile, or half mile – depending on the species) during their brooding seasons. Burrowing Owls may have nesting seasons that start in March or April. Migratory raptors (Ferruginous Hawk and Peregrine Falcon) have brooding seasons that can be as early as January 1 and last through August 31.

To avoid impacts the following measures will be followed:

- Avoid the nesting season within the spatial buffer for the species of concern if any nests are located during the survey;
- Begin work before the nesting season and continue without stopping until far enough away from the nest site; and
- Make the habitat undesirable for ground nesting birds, such as Burrowing Owls, by disturbing potential nesting habitat in the winter before the beginning of nesting season.

Spatial buffers for raptors with active nests are recommended to be at least 1.0 mile. For other diurnal raptors the spatial buffer is 0.5 mile. Burrowing Owls require a spatial buffer of 0.25 mile.

Following construction, all terrestrial disturbances will be seeded, where possible, using native species.

5.19.5 Mitigation Measures for the Silky Pocket Mouse and Desert Night Lizard

Avoiding potential habitat for the silky pocket mouse and the desert night lizard may not be possible. One way to mitigate for the loss of habitat will be the creation of new habitats within the disturbed areas. For the silky pocket mouse, this could be accomplished by the re-vegetation of the disturbed areas with herbaceous and shrub species. The placement of earth and rocks within disturbed areas would encourage the desert night lizard to utilize areas within the project limits.

5.19.6 Mitigation Measures for the Cronquist Milkvetch

Before construction begins, Cronquist milkvetch surveys will be completed. During the surveys Cronquist milkvetch plants will be identified. These plants will either be avoided, transplanted, or seeds will be collected and given to NNHP herbarium.

5.20 INVASIVE SPECIES

In order to minimize the spread of invasive species and noxious weeds in the construction work area, the following mitigation measures will be implemented:

- All noxious weeds will be verified and located in the work area. If assistance is needed for identification, the county weed control supervisor or UDOT's regional landscape architect will be contacted.
- All existing noxious weed populations will be treated 10 days before starting earthwork operations.
- Noxious weed populations identified before and during construction will be controlled using pre-emergent, selective, and non-selective herbicides, as listed in UDOT Special Provision Section 02924S Invasive Weed Control.
- High-pressure water blasting or steam-cleaning methods will be used to clean all earthmoving construction equipment (scrapers, bulldozers, excavators, backhoes, trenchers) of dirt, mud, and seed residue before initially entering the project area.

- If borrow material is used for any part of the proposed project, the contractor will certify that the material is free of noxious weeds. If the borrow is stockpiled, it will be stabilized and remain weed-free for the duration.
- Staging areas will be prohibited in weed-infested areas unless the area is pre-treated to remove all invasive species.

5.21 HISTORICAL AND ARCHEOLOGICAL RESOURCES

Measures to mitigate effects to historical and archeological resources have been addressed in compliance with Section 106 of the National Historic Preservation Act and set forth in a Programmatic Agreement (PA) for this project. This PA indicates that mitigation measures will be described in detail in a Historic Properties Treatment Plan (HPTP), which will be developed in consultation with THPO, SHPO, consulting Indian Tribes, and the public (including people from the Aneth Chapter).

Mitigation measures may also include, but are not limited to:

- Data recovery from sites that may be adversely impacted by the project. This testing will help to record and archive any information at the sites.
- During construction, if a new site is encountered, work will immediately stop while a UDOT archaeologist, in coordination with FHWA and Navajo DOT determine what, if any, information should be gathered from the site and if the site can be avoided.
- Construction monitoring that may be established pursuant to the PA (**Appendix E**).
- CSS will be used in designing the roadway from Montezuma Creek to Aneth. FHWA, Navajo DOT, and UDOT are sensitive to the issues involved with the construction of a wider roadway through this culturally rich area.
- Temporary environmental fencing to protect archaeological sites, TCPs, IUAs, and burial sites.
- Monitoring by qualified archaeologist will be conducted for 300 feet during construction, 150 feet on both sides of MP 15.2 on the south side of SR-162 because of the potential for additional burials in the area.
- Construction between MP 20.4 and 20.7 will be monitored by a qualified archaeologist.
- The burial and funerary items associated with Burial 25 will be covered using techniques that will inhibit further erosion.

As part of the mitigation for this project, there has been ongoing coordination with other federally recognized Indian Tribes who are consulting parties. This coordination has included field visits with several of those Indian Tribes. Those field visits are discussed in Chapter 6 – Section 6.2.2.

5.22 VISUAL QUALITY

The principles of CSS were examined to identify any special design considerations that may avoid visual impacts. Care will be taken to reduce all impacts to the visual quality of the area. Excavation methods will be used to limit rock removal to those areas required for road construction. This would help minimize visual impacts. Hillside vegetation will be seeded where possible to restore areas to a more natural appearance.